BRITISH COLUMBIA PHYSICS 11 (MPH--11) · UNIT D · 25 QUESTIONS

# Mechanical Waves — Practice Test

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

**1** **An ocean wave transfers**



A matter from place to place

B only sound

C only light

D energy without a net transfer of matter

Understand It with Pulse | Flag a mistake

2 **Sound is an example of a**

A longitudinal wave

B transverse wave

C standing wave only

D electromagnetic wave

Understand It with Pulse | Flag a mistake

3 **A wave has frequency 5 Hz and wavelength 2 m. The wave speed, in metres per second, is ____**

ANSWER _____

Understand It with Pulse | Flag a mistake

4 **A wave has a period of 0.25 s. The frequency, in hertz, is ____**

ANSWER _____

Understand It with Pulse | Flag a mistake

5 **A wave has a frequency of 20 Hz. The period, in seconds, is ____**

ANSWER _____

Understand It with Pulse | Flag a mistake

6 **Sound travels at 340 m per s with a frequency of 170 Hz. The wavelength, in metres, is ____**

ANSWER _____

Understand It with Pulse | Flag a mistake

7 **Amplitude is the maximum displacement of a particle from**

A the next crest

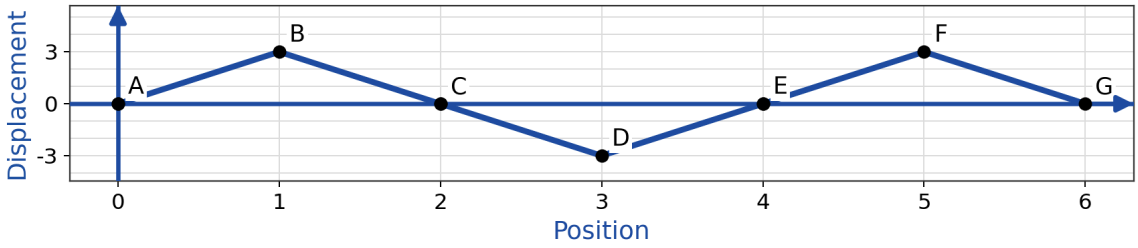
B the source

C its rest position

D the trough

Understand It with Pulse | Flag a mistake

**8** **The graph shows displacement against position for a wave. Each x unit is 1 m. The wavelength, in metres, is**




A 2

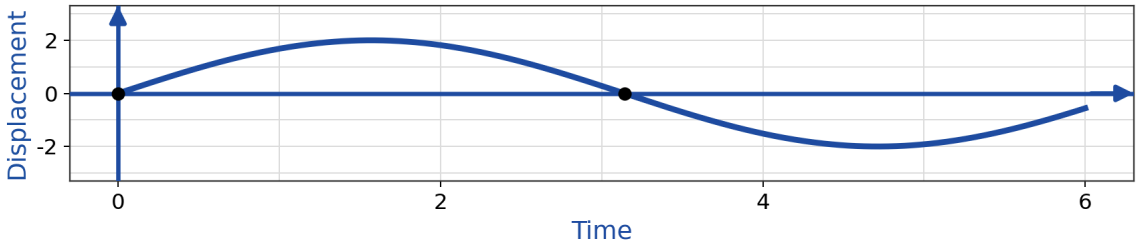
B 3

C 4

D 6

Understand It with Pulse | Flag a mistake

**9** **The graph shows displacement against time for a vibrating particle. The amplitude, in the graph units, is**




- **A** 1
- **B** 2
- **C** 3
- **D** 4

Understand It with Pulse | Flag a mistake

**10** **Sound cannot travel through**

- **A** air
- **B** water
- **C** steel
- **D** a vacuum

Understand It with Pulse | Flag a mistake

**11** **An ambulance with its siren sounding drives toward an observer. The observed frequency is**



A lower

B higher

C unchanged

D zero

Understand It with Pulse | Flag a mistake

12 **In a longitudinal wave, particles vibrate**

A parallel to the wave direction

B at a right angle to the wave direction

C in circles

D not at all

Understand It with Pulse | Flag a mistake

13 **A sound pulse echoes back after 2 s. With a sound speed of 340 m per s, the distance to the reflecting surface, in metres, is ____**

ANSWER _____

Understand It with Pulse | Flag a mistake

14 **On a standing wave, a node is a point of**

A maximum displacement

B maximum speed

C maximum energy

D no displacement

Understand It with Pulse | Flag a mistake

15 **A piano string 2 m long vibrates in its fundamental mode. The wavelength, in metres, is _____**



ANSWER

Understand It with Pulse | Flag a mistake

16 **The pitch of a sound depends mainly on its**

A amplitude

B speed

C frequency

D medium

Understand It with Pulse | Flag a mistake

17 **A wave has frequency 40 Hz and wavelength 0.5 m. The wave speed, in metres per second, is ____**

ANSWER _____

Understand It with Pulse | Flag a mistake

18 **The loudness of a sound depends mainly on its**

A frequency

B wavelength

C amplitude

D period

Understand It with Pulse | Flag a mistake

19 **Sound travels 680 m at 340 m per s. The travel time, in seconds, is _____**

ANSWER _____

Understand It with Pulse | Flag a mistake

20 **When a wave enters a new medium and its speed changes, the quantity that stays the same is its**

A wavelength

B amplitude

C speed

D frequency

Understand It with Pulse | Flag a mistake

21 **An observer counts 60 waves passing in 10 s. The frequency, in hertz, is _____**

ANSWER _____

Understand It with Pulse | Flag a mistake

22 **Unlike sound, light is an electromagnetic wave that**

A can travel through a vacuum

B needs a medium

C has no frequency

D has no wavelength

Understand It with Pulse | Flag a mistake

23 **A wave travels at 300 m per s with a frequency of 60 Hz. The wavelength, in metres, is ____**

ANSWER _____

Understand It with Pulse | Flag a mistake

**24** **A singer sings a note that matches the natural frequency of a wine glass. Resonance happens, and the amplitude of the vibration**



A drops to zero

B stays the same

C grows large

D becomes negative

Understand It with Pulse | Flag a mistake

25 **A source makes 120 cycles in 60 s. The period, in seconds, is _____**

ANSWER _____

Understand It with Pulse | Flag a mistake

# ANSWER KEY

1. D
2. A
3. 10
4. 4
5. 0.05
6. 2
7. C
8. C
9. B
10. D
11. B
12. A
13. 340
14. D
15. 4
16. C
17. 20
18. C
19. 2
20. D
21. 6
22. A
23. 5
24. C
25. 0.5

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